

# THE BROCHURE SERIES

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### THE CATHEDRAL OF ORVIETO.

THE Cathedral of Orvieto is one of the most celebrated and interesting, as well as one of the most magnificent examples of the Italian Gothic of the thirteenth and fourteenth centuries. It replaces the church of Madonna di S. Brizio, which was founded in consequence of the miracle of Bolsena.

The value of this miracle, which has been made familiar to students of art through Raphael's celebrated fresco in the Stanze of the Vatican, consisted in its establishing unmistakably the truth of Transubstantiation; a dogma which the church was at this period all the more anxious to establish, since, in Northern Italy a new evangelist, Abbot Joachim, had arisen to preach the coming of a Kingdom of the Spirit which should transcend even the Kingdom of the Son, as that had transcended the Jewish supremacy of the Father.

"At Orvieto," says Ruskin, "enthroned against the gates of Hell, in unassailable fortitude, and unfaltering faith, sat Pope Urban; the righteousness of his cause presently to be avouched by miracle, notablist among those of the Roman Church. Twelve miles east of his rock, beyond the range of low Apennine, shone the quiet lake, the Loch Leven of Italy, from whose island the daughter of Theodorice needed not to escape—fate seeking her there; and in a little chapel on its shore a Bohemian priest, infected by the Northern infidelity, was brought back to his allegiance by seeing the blood drop from

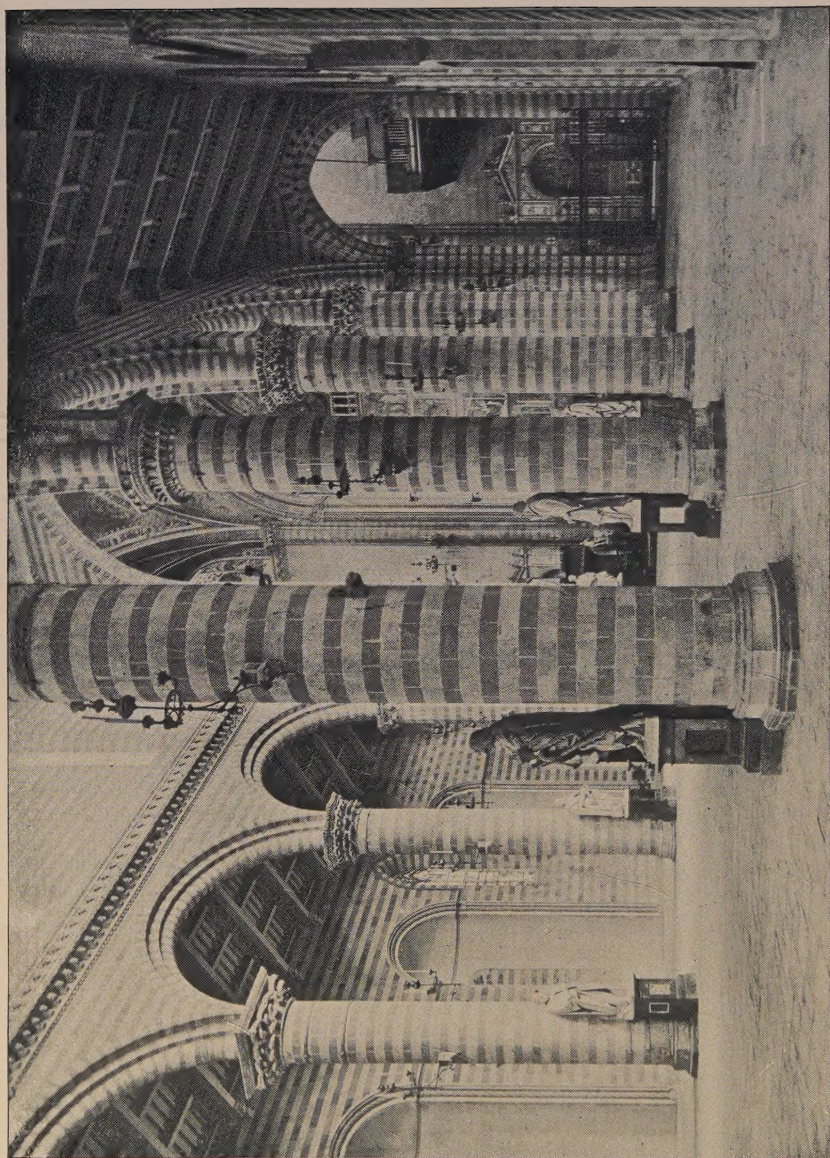
the wafer in his hand. And the Catholic Church recorded this heavenly testimony to her chief mystery in the Festa of the Corpus Domini, and the Fabric of Orvieto."

The corner-stone of the present building was laid by Pope Nicholas IV. on Nov. 13, 1290, and the church begun under the supervision and according to the plans of Lorenzo Maitani of Siena. The work progressed so rapidly that in 1298(?) Bishop Guido di Farnese was able to read the first mass in the church. The façade, however, was not begun until 1310, and the decoration of it was continued through most of the fourteenth century.

The use of alternate horizontal courses of black and white masonry, like that of the cathedrals of Florence and Siena, with which latter it is commonly ranked, and with which it is nearly contemporary, the beautiful campanile and the elaborately decorated gabled façade, like that of the Siena Cathedral, furnish the salient points by which this charming building is commonly remembered.

This cathedral, like those in other towns, once constituted a great arena for the display of artistic skill. The guardians of the building were unwearied in providing for its ornamentation; and like the curators of modern museums, who are zealous in their endeavors to secure works by the best artists, they did all in their power to obtain the services of the first masters of the day for the embellishment of their church.





X.

Nave and Aisles of Orvieto Cathedral.



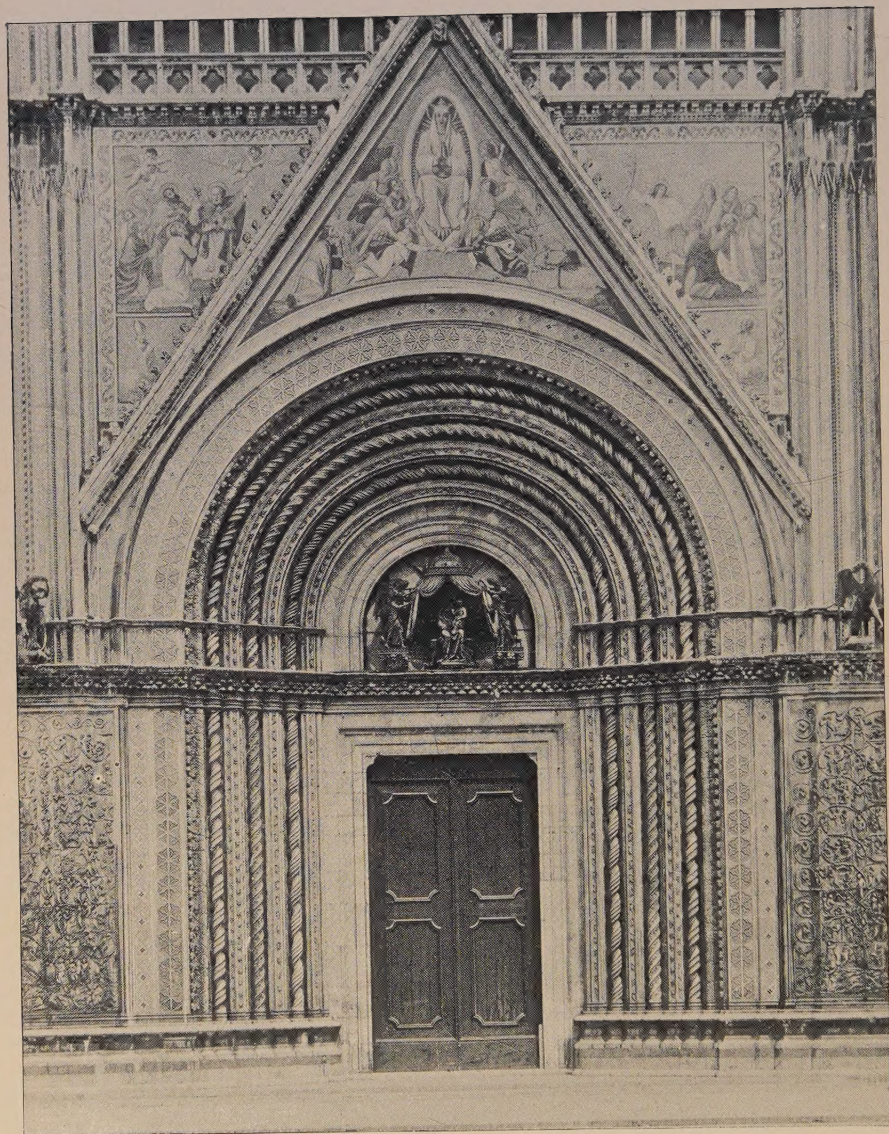
The church is cruciform, with a length of about 290 feet and a breadth of about 100 feet, the transept not projecting. Its nave, 131 feet high, is broad, and is separated from the aisles by five round piers on each side, with low, foliated capitals supporting simple round arches. In front of each of the nave piers stands a colossal marble statue of one of the apostles, on a high pedestal. Above the arcades runs a narrow projecting gallery with quatrefoil panels, supported on small consoles, but no triforium. The clerestory is high, and is pierced with a single tall pointed window over each of the nave arches. From the wall of each aisle project five small round apses used as chapels, and between them are tall pointed two-light windows with simple tracery in the heads filled with stained glass. The square of the crossing is marked by clustered piers, from which transverse arches are thrown across the nave, transept and choir. The choir is rectangular and is lighted by a tall pointed two-light window with simple tracery and covered, like the square of the crossing, by a simple four-part vault; the other portions of the church having open wooden roofs. The framing of the nave roof is visible and was formerly richly ornamented. The walls and piers throughout are banded alternately in black basalt and greenish-yellow limestone from quarries in the vicinity. Opening from each transept arm is a large rectangular chapel, of which the southern, dedicated to the Madonna di S. Brizio, contains on the walls and ceiling some of the most admirable frescoes of Fra Angelico and Luca Signorelli.

The exterior is, with the exception of the front, banded like the interior in white and black marble. The aisle walls show the five projecting apses on each side, decorated with slender engaged shafts ending in arched corbeltables, and covered by conical roofs just under the cornice of the aisle. The clerestory wall is also divided by slender shafts, each bay containing a tall pointed-arched window. The transept and east end are bare.

The façade, with its three pediments, 132 feet wide and 160 feet high, is

sumptuously decorated with sculptures and mosaics; and is said to be the largest and most gorgeous polychromatic monument in existence. It is of white marble, in three divisions, corresponding in width to the nave and aisles, but entirely belying their outline, separated and flanked by strong, square buttresses, their faces decorated with long traceried panels, rising through the front and terminating above the roofs in massive crocketed pinnacles. At the base of each of the three divisions is a deeply splayed doorway, that in the middle round arched, those at the sides pointed, but all decorated with delicate twisted jamb-shafts and arch-mouldings, and surrounded by bands of mosaic. The arches are covered by high gables with crockets and finials. A slight and graceful arcaded gallery, with cusped round arches carried on pilasters and covered by gables, crosses the front above the doorways. Over this gallery the wall-space of the central division is occupied by a fine traceried rose window, with decorated border and spandrels of mosaic, set in a square of small quatrefoil panels enclosing heads in high relief, and enclosed on the sides and above by ranges of niches containing statues, single and in groups. Each of the three divisions is terminated by a high, crocketed gable. But the characteristic feature of this façade is its decoration. The great piers between the doorways, and those at the angle of the front, are covered with a network of branching vines enclosing crowded figure-sculptures, in many respects characteristic of the transitional style preceding the Renaissance. They are by Giovanni da Pisa and other pupils of Niccolo Pisano, and represent scenes from the Old and New Testaments. The hollows of the spiral shafts of the great doorway are filled with mosaics in geometrical patterns; a triple band of the same character surrounds the opening of the central doorway. The gables, the rose window, and other prominent features of the front are outlined in a similar manner, while the gables themselves, both those of the doorways and those terminating the façade, and the whole of the wall space above the doorway arches, are entirely





XI.

Central Doorway of Orvieto Cathedral.



covered with pictured mosaics on a gold ground, of various periods, from the fourteenth to the nineteenth century, and of admirable workmanship. Above the principal portal is a Madonna under a canopy, in bronze, by Andrea Pisano. On the margin of the large square panel, in the centre of which is a rose window, are small marble statues of prophets; and above, of the twelve apostles, executed by Sienese sculptors.

The whole front has, since 1880, undergone a complete restoration. It has little logical connection with the church behind it, but is a mere architectural frontispiece, of which the central gable is forty feet or more above the nave roof, and the side gables are, perhaps, twice as high as the roofs of the aisles behind them; but as an independent architectural composition, whose keynote is its polychromatic decoration, it is without a rival.

In the marble panels at the sides of the doors of the façade of Orvieto, executed by Giovanni da Pisa and his co-workers (Plates XI., XII. and XV.), the stone is laid, "*rampant*," as Ruskin calls it, or with its natural bed vertical, instead of horizontal.

He refers to Violet-le-Duc as authority for the statement that one great condition of the Gothic structure is that the stones shall be *en de-lit*, or set up on end. The ornament then,—which, on the stone, laid on its natural bed or *couchant*, was only flowing, or covered the surface or moulding,—on the erected stone begins to climb also, and becomes, in the most heraldic sense of the term, *rampant*.

He takes this set of panels as an example of a class of masonry which he broadly calls "*Cyclopean*," in which the joints are reduced to the minimum width, and as little dependence as possible put upon cement. They are laid with the same nicety and precision which was carried to the extreme in the masonry of the Parthenon; and the blocks shaped and "*dove-tailed*" together in such a way that gravity alone makes the structure secure.

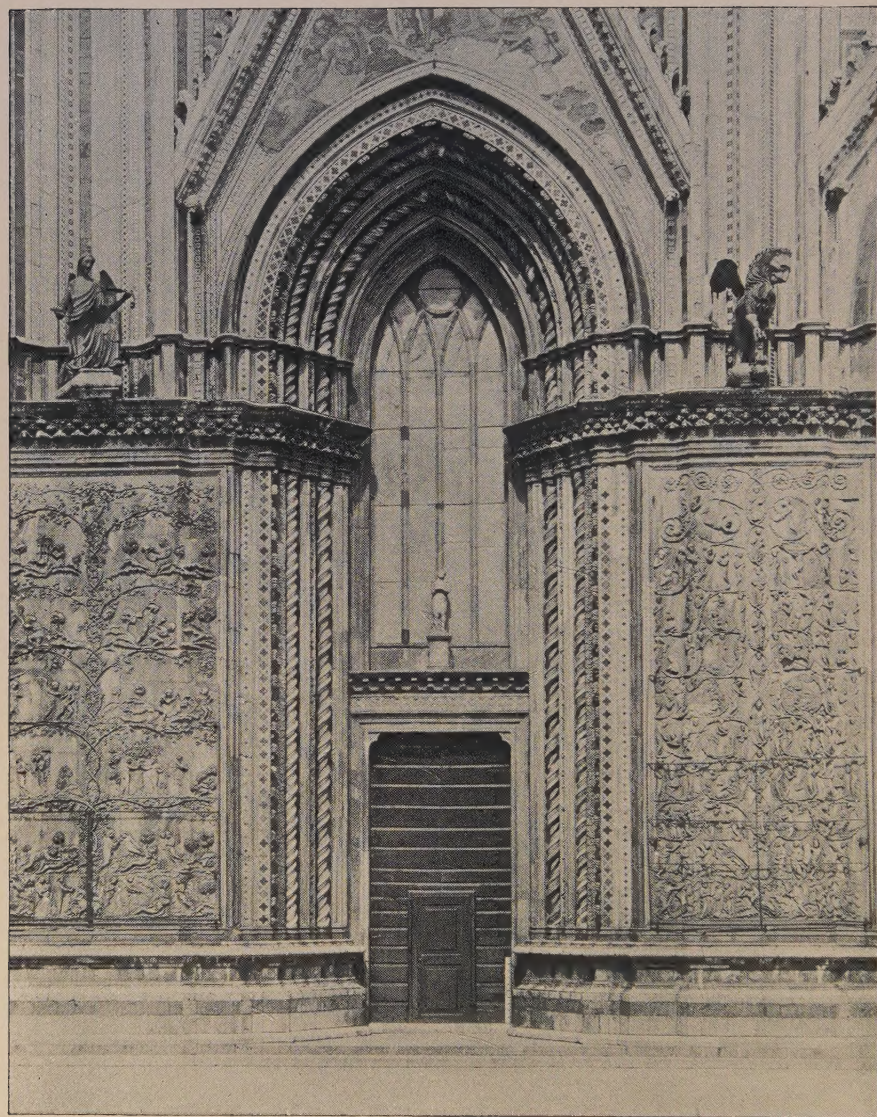
In work of this class the laying of the stones is so beautiful that their joints become a subject for admiration, and a great part of the architectural

ornamentation lies in the beauty of these finely drawn lines of separation. In the brick work of Siena, in the gateway at Lucca, in a window at Orvieto, in a vault at Verona, and in the refectory at Furness Abbey, these separating lines are, according to Ruskin, a main source of pleasure in the building. He says: "Virtually, you will find that the schools of structural architecture are those which use cement to bind their materials together, and in which, therefore, balance of weight becomes a continual and inevitable question. But the schools of sculptural architecture are those in which stones are fitted without cement, in which, therefore, the question of fitting or adjustment is continual and inevitable, but the sustainable weight practically unlimited." The work in Orvieto, now under consideration, belongs, of course, to the second class, or "*sculptural architecture*."

Giovanni da Pisa was the son and successor of Niccolo Pisano, to whom Ruskin attributes the beginning of the Italian Gothic style. A most interesting account of this early transitional step will be found in the first lecture in his "*Val d'Arno*"; and of the influences under which Niccolo and Giovanni worked in the development of the beautiful Tuscan style of which the churches in Pisa, Orvieto, Florence and Siena are examples. The sculptures, which cannot be studied to advantage in the small reductions shown in our plates, are beautiful in conception and workmanship, and among the finest of this wonderful collection of art treasures. Ruskin attributes the delicate tracery of vines to German influence, which was evident in Giovanni's work at this time.

Ruskin uses the striped masonry of Orvieto cathedral as a text for an elaborate argument, upholding the method of laying stone as it is found in the quarry, with its natural cleavage surface horizontal; or, as we say, on the natural bed; and draws a comparison between the effect of this distinctly stratified look and the solid appearance of cliffs where the horizontal divisions of strata are marked. In this case, of course, he returns to the consideration of the building as structural architect-





XII.

Door at Left of Centre, Façade of Orvieto Cathedral.



ure, leaving out the façade, which is not striped.

"Those of you who, interested in English Gothic," says he, "have visited Tuscany, are, I think, always offended at first, if not in permanence, by these horizontal stripes of her marble walls. Twenty-two years ago I quoted, in Vol. I. of the 'Stones of Venice,' Professor Willis's statement that 'a practice more destructive of architectural grandeur could hardly be conceived;' and I defended my favorite buildings against that judgment, first by actual comparison in the plate opposite the page, of a piece of them, with an example of our modern grandeur; secondly (Vol. I., Chap. V.), by a comparison of their aspect with that of the grandest piece of wall in the Alps,—that Matterhorn in which you all have now learned to take some gymnastic interest; and thirdly (Vol. I., Chap. XXVI.), by reference to the use of barred colors, with delight, by Giotto and all subsequent colorists.

"But it did not then occur to me to ask, much as I always disliked the English Perpendicular, what would have been the effect on the spectator's mind had the buildings been striped vertically instead of horizontally; nor did I then know, or in the least imagine, how much *practical* need there was for reference from the structure of the edifice to that of the cliff, and how much the permanence, as well as propriety, of structure depend on the stones being *couchant* in the wall as they had been in the quarry: to which subject I wish today to direct your attention.

"You will find stated, with as much clearness as I am able, in the first and fifth lectures in 'Aratra Pentelici,' the principles of architectural design to which, in all my future teaching, I shall have constantly to appeal: namely, that architecture consists distinctively in the adaptation of form to resist force;—that practically, it may be always thought of as doing this by the ingenious adjustment of various pieces of solid material; that the perception of this ingenious adjustment, or structure, is to be always joined with an admiration of the superadded ornament; and that all delightful ornament is the

honoring of such useful structures; but that the beauty of the ornament itself is independent of the structure, and arrived at by powers of mind of a very different class from those which are necessary to give skill in architecture proper."

## IX.

## FACADE OF ORVIETO CATHEDRAL.

The very evident lack of connection between the façade and the remainder of the church is shown clearly in this view; and a suggestion is given of the effect of color.

## X.

## NAVE AND AISLES OF ORVIETO CATHEDRAL.

The almost severe simplicity of this interior contrasts strangely with the overloaded decoration of the artificial front. It has some Gothic features but is not Gothic in spirit. It shows how differently the builders in the South treated the same problem, which in the North produced the cathedrals of France, England and Germany.

## XI.

## CENTRAL DOORWAY OF ORVIETO CATHEDRAL.

Taken by itself this doorway is unquestionably one of the greatest masterpieces of Italian Gothic architecture. Delicacy and refinement of detail could hardly be carried to greater perfection. The beautiful engaged twisted shafts, shown in Plate XIV., and the mouldings, as well as all the flat surfaces, are covered with a wealth of mosaic executed with a skill that is seldom surpassed.

## XII.

## DOOR AT LEFT OF CENTRE, FACADE OF ORVIETO CATHEDRAL.

## XIII.

## SHAFTS IN THE JAMB OF LATERAL DOOR, ORVIETO CATHEDRAL.

## XIV.

## SHAFTS IN THE JAMB OF CENTRAL DOOR, ORVIETO CATHEDRAL.

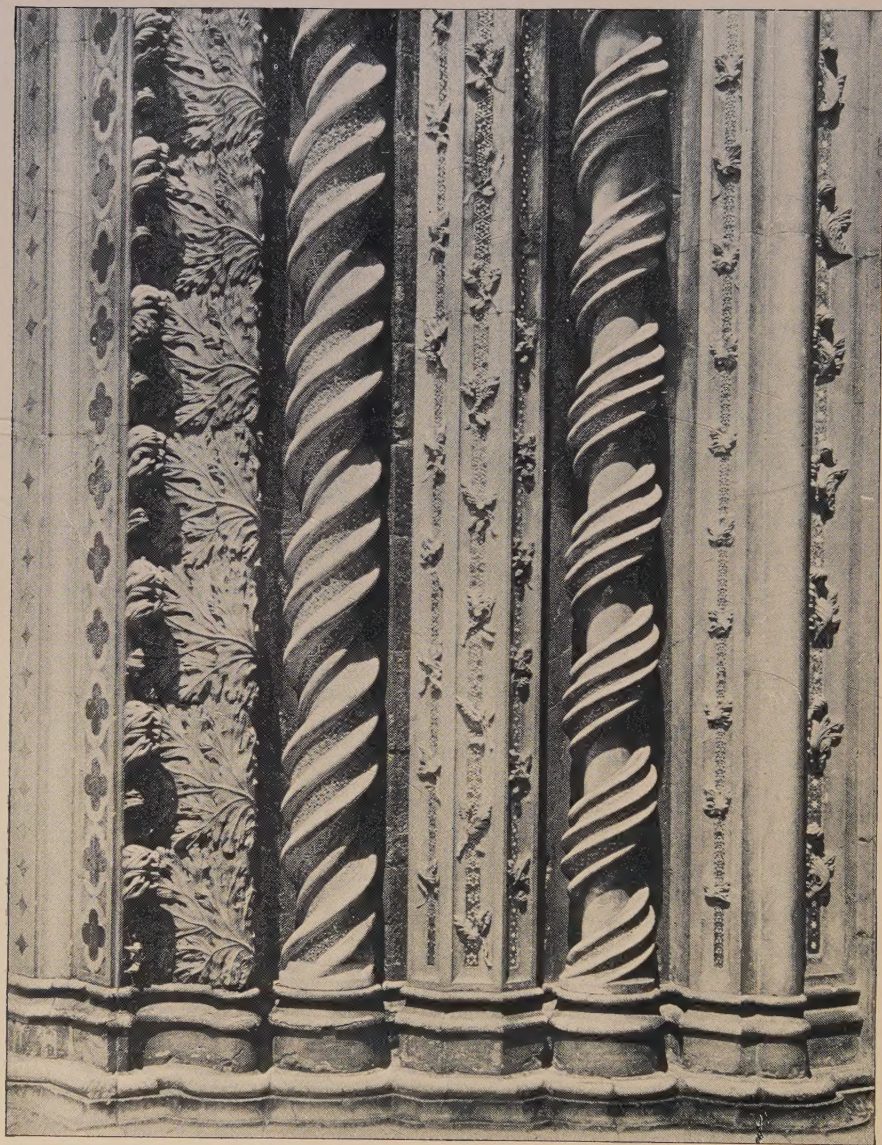
## XV.

## PANEL IN FACADE OF ORVIETO CATHEDRAL.

## XVI.

## SOUTH DOOR OF ORVIETO CATHEDRAL.





XIII.

Shafts in the Jamb of Lateral Door, Orvieto Cathedral.



# The Brochure Series

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"The Motiv," an association of architectural students in Berlin, has just celebrated the fiftieth anniversary of its existence. It is a curious coincidence that this, the principal society among German architectural students, should have been formed in the same year and month as the "Architectural Association," which holds a corresponding position in England. The latter, however, sprung from an independent initiative among the students themselves; while the German society owes its organization to the efforts of the late Professor William Stier, the popular master of the old Building Academy at Berlin. Almost all the members of "The Motiv" are students in the Royal Technical College, which is the German Government School.

The members of "The Motiv" have a "coaching class," designed to render mutual assistance in preparing students for the college and for professional examinations. To this end they publish model test-papers, and a catechism, and tutor backward pupils.

The anniversary exercises, which combined various official and social gatherings appropriate to the occasion, began with a memorial service at the grave of Professor Stier. A special anniversary number of the society's publication will be issued.

During the past season, a new working-club, mainly composed of the more advanced architectural draughtsmen, has been formed in New York. Its meeting for organization was held in the office of Messrs. Brunner & Tryon;

the name "The Acropolis Club" was adopted, and the following officers and committee of management were chosen: President, Thomas Eagleson; Secretary, C. H. Acton Bond; Treasurer, George M. Bartlett; Committee, C. H. Acton Bond, T. R. Johnson, John R. Kauf, B. Van Benthuyzen, George M. Bartlett and C. G. Poggi.

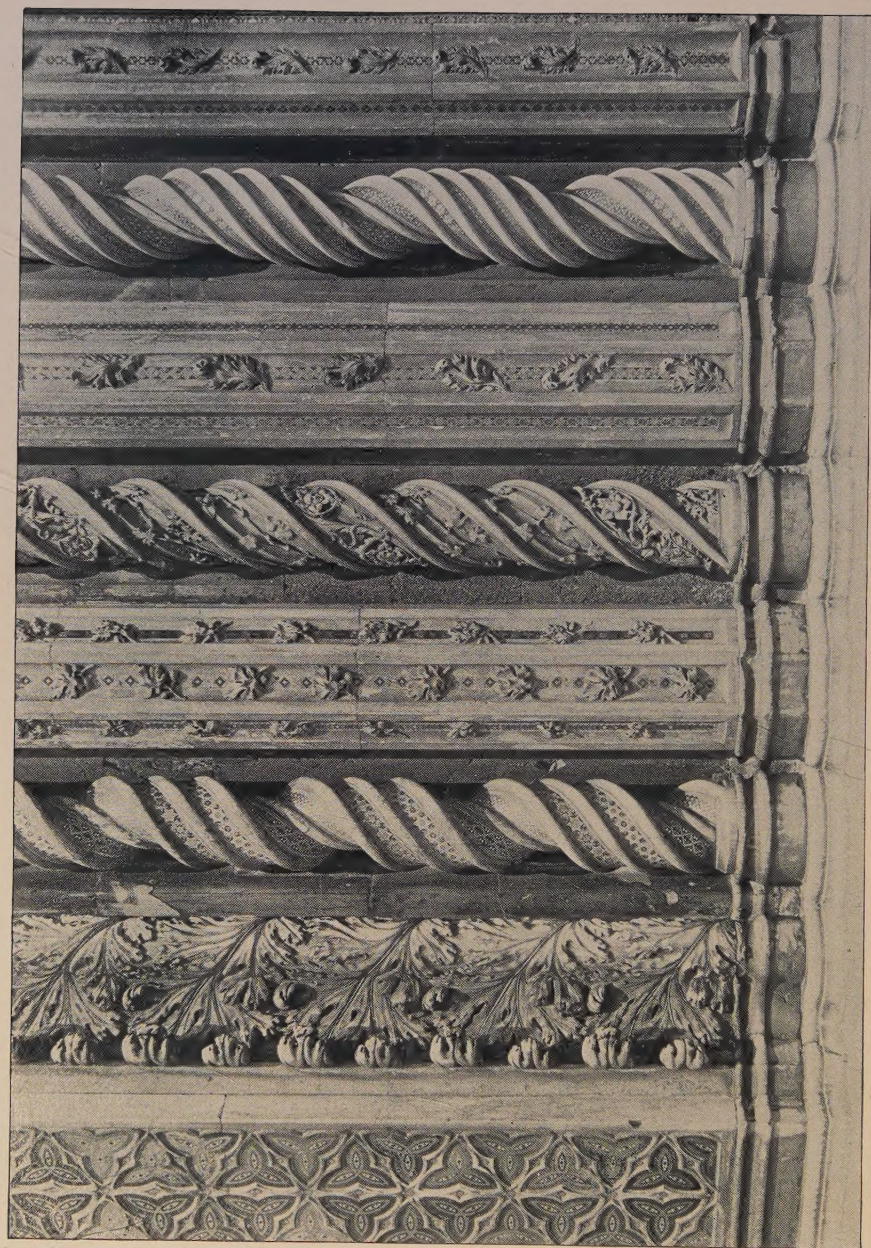
The plan of work was laid out along similar lines to those adopted by the "Architectural League," although limited in application and purpose to the needs of architectural draughtsmen. It was decided to form two classes immediately: one to work out the problems of the "Beaux-Arts Society" under the critical direction of Mr. Thomas Hastings, and the other to draw from the figure under Mr. George W. Maynard.

The "Acropolis" first talk, accompanied by a practical demonstration, was given by Mr. Hawley; and at the close of the evening he presented the club with a drawing of his own,—a scene from an old French town.

This organization starts with the promise of accomplishing good results, and its membership is the best evidence of the serious purpose of the undertaking.

A noteworthy exhibition of architectural drawings was held early in the winter at the rooms of the Architectural League in New York, and later at the gallery of the St. Botolph Club in Boston. It consisted of the drawings of the several students who have been connected during the past two years with the American Academy in Rome. The work showed the results of study and research relating to Roman, Greek and Renaissance architecture by the holders of American scholarships—work required as evidence of the industry and fidelity of these students. The architects represented were Harold V. B. Magonigle, Rotch Travelling Scholarship, Boston; S. J. Temple, Columbia Travelling Scholarship, New York; G. B. Page, University of Pennsylvania Travelling Scholarship, Philadelphia; J. R. Pope, Columbia Travelling Scholarship, New York, Prize of Rome; W. S. Aldrich,







Rotch Travelling Scholarship, Boston; Percy Ash, University of Pennsylvania Travelling Scholarship, Philadelphia. The work of A. P. Proctor, sculptor, and holder of the Rinehart Scholarship, Baltimore, and that of G. W. Breck, painter, and holder of the Lazarus Scholarships, New York, was also included.

The most widely known of these exhibitors is undoubtedly Mr. Magonigle, and his later drawings fully bear out the promise of his earlier years. There is a precision and delicate expression of form in his line drawings, which few draughtsmen can approach. Mr. Pope, Mr. Page and Mr. Aldrich have done most excellent work; and all the drawings, compared with similar collections of former years, show a sure advance in industry and intelligence among our foreign students.

Three diplomas were awarded last year to American architectural students who had completed satisfactorily the required course in the Ecole des Beaux-Arts in Paris—the first Americans to receive this honor. This year one more name is added to the list, that of Mr. Hugh Tallant; and two more candidates from the ranks of the Americans now in the school for degrees are expected to present themselves.

The admission examinations for the Beaux-Arts are growing each year more and more exacting because of the number of aspirants and the limited accommodations of the school. At the trial in April but six Americans were admitted, and in the later examination still greater restrictions will be enforced; for it is announced that only five places will be distributed among more than fifty foreign applicants. Probably not more than five of these will be Americans. In the past, ten foreigners have been received at each trial.

### Notes.

Can any of our readers give a good reason for setting sash pulleys into the sides of window frames? It is one of

those customs that has become general because no one has happened to think of a better method. The Folsom Snow Guard Company, whose ingenious little wire guard has replaced the unsightly and ineffective guard rail for roofs, is putting upon the market an overhead pulley that has many advantages over the old-style side pulley. As one of the best evidences of the merit of any device is the class of work it has been used in, we take pleasure in calling attention to the fact that this overhead pulley has already been used on the D. O. Mills hotels, Hotel Renaissance, Commercial Cable, Bowling Green, Gekin, Bank of Commerce, Queen's Life Insurance, Western Electric and Weld buildings, New York, Phoenix and Mutual Life buildings, Hartford, and many fine residences. Among the architects who have specified it are Geo. B. Post, R. H. Robertson, Ernest Flagg, W. & G. Audsley, C. L. W. Eidlitz, Cady, Berg & See, Jas. B. Baker, Howard & Cauldwell, and Renwick, Aspinwall & Owen of New York, and Kendall & Stevens, Rand & Taylor, W. G. Preston, J. L. Faxon, Loring & Phipps, and Franz Zerrahn of Boston.

The favor which our Japan prints of Chas. Herbert Woodbury's pencil drawings found among architects and draughtsmen, has encouraged us in offering a set of twelve larger prints that are perfect fac-similes of the original drawings. These are 11x14 in size, and only two of the drawings are contained in the earlier set. The price of the set is \$3.00, postpaid. No draughtsman who desires to become skilful with the pencil should omit a study of Mr. Woodbury's work; and this set of prints is in every way as good as the originals.

Horticultural building work is a specialty that architects had best leave wholly to some house of long experience in this particular line; consulting with them, perhaps, as to the general plan and outward appearance, but stopping there. It will interest our readers,





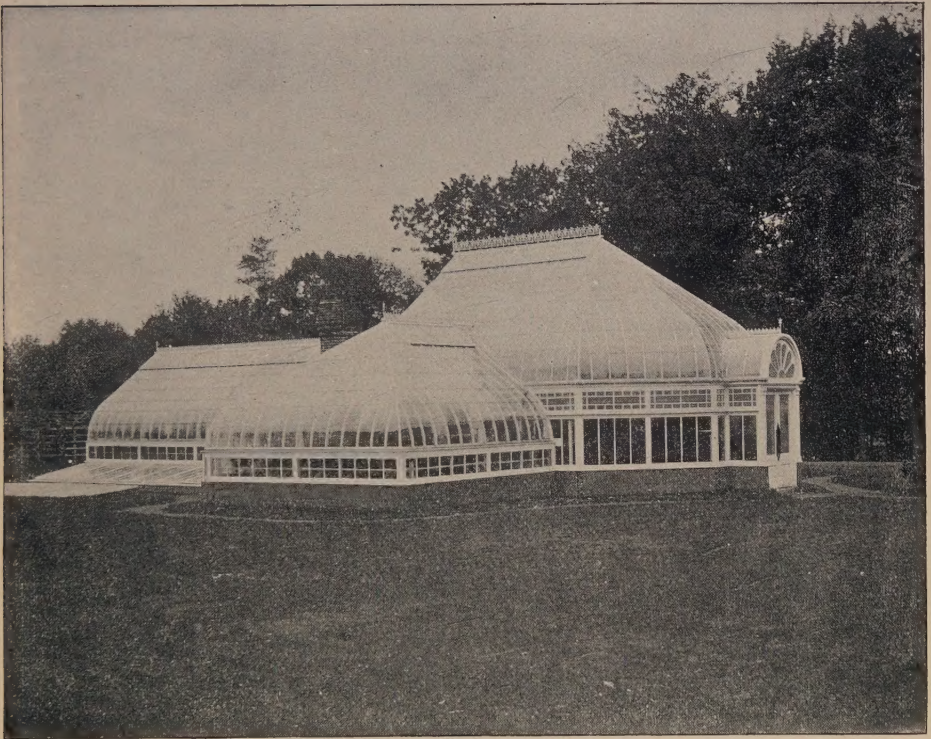
XV.

Panel in Façade of Orvieto Cathedral.



however, to know how this class of building is constructed by one of the old firms of greenhouse builders; and we have selected as an example, a palm house at Morristown, N.J., built by Hitchings & Co. of New York, who have been doing this work for over half a century. The palm house itself is 28x26 feet, with wings 20x19. It is connected with a rear house 42x19, which has cold frames attached. The general outline is kept very simple, broken only by the entrance. It is constructed with an improved iron frame, designed to secure the required strength with the

Double thick, second quality French glass, properly bent for the curved portions, is used throughout; that on the palm house being ground to prevent the burning effect of the sun. Hitchings & Co. make their own heating apparatus, which gives perfect satisfaction under all conditions of temperature and climate. The boilers have a corrugated fire-box and patent shaking and dumping grates, and are used in thousands of ordinary greenhouses. The heat is distributed through cast-iron piping in such a way as to secure the desired temperature in the different

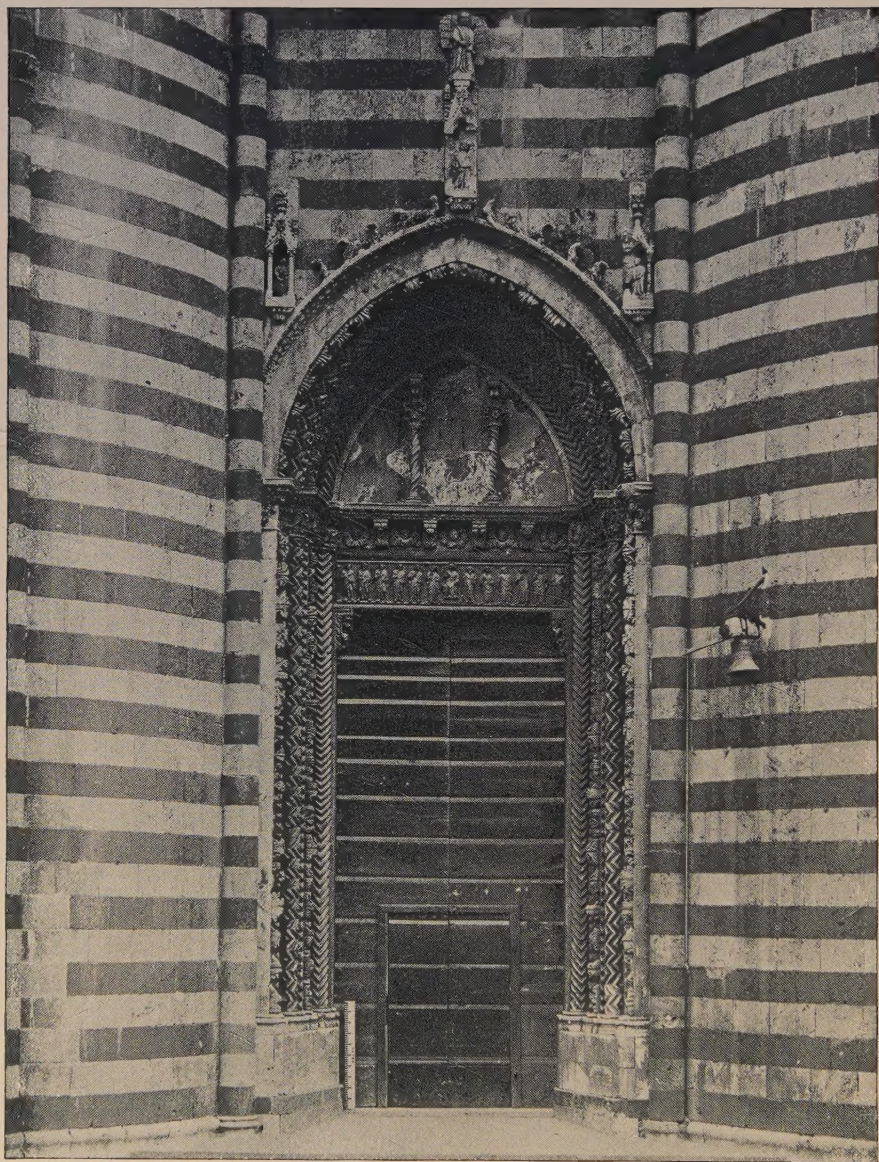


Palm House, Morristown, N.J., built by Hitchings & Co.

lightest possible structure. A brick foundation underlies heavy cast-iron sills, to which are secured, by suitable iron feet, the combined posts and rafters, the latter bent to the radius of the roof and connected by light angle iron purlins. To these the wood glazing-bars are attached, the curved portion sawed to fit the curve of the rafters.

parts of the range. The ventilating sashes are operated by self-locking apparatus, covered by Hitchings' patents. Architects can feel safe in completely turning over to such a firm any greenhouse work they may have; for the long record of successful horticultural building that Hitchings & Co. can point to, is proof of their thorough skill.





XVI.

South Door of Orvieto Cathedral.









XVII.

Portions of the Pavement of the Siena Cathedral.